

BOOK REVIEW

Paula Bialski. Middle tech: Software work and the culture of good enough. Princeton University Press, 2024, pp. 224. ISBN: 9780691257167

Philip Di Salvo, University of St. Gallen, Institute for Media and Communications Management, Switzerland

philip.disalvo@unisg.ch

In a landscape increasingly preoccupied with the societal implications of digital technologies, from the pervasive influence of artificial intelligence (AI) to the dynamics of platform power, Paula Bialski's *Middle Tech: Software Work and the Culture of Good Enough* (Princeton University Press, 2024) offers a timely intervention that looks at the nature and technical origins of these issues. Amidst different narratives that often oscillate between techno-utopianism and dystopian alarmism, Bialski's ethnographic study provides a counter-narrative that reconsiders the foundations upon which digitalization is built, together with the digital communication tools and platforms that dominate it. For researchers trying to make sense of the opacity of "black box" technologies (Carabantes, 2020; Olesen, 2025), the vulnerabilities inherent in digital systems (Ananny, 2023; Barassi, 2024), and the complex interplay between human agency and technology, Bialski's book is a valuable contribution to the field of media and communication studies, science and technology studies (STS), and digital sociology.

As a growing corpus of research now clearly shows (Natale et al., 2019; Lewis et al., 2025; Winkel, 2025 – among others), media, corporate and policy discourses surrounding technological advancement frequently champion seamlessness, efficiency, and an almost mythical pursuit of perfection, a phenomenon that has recently reached quasi-religious tones in connection with the advancements of AI (Epstein, 2024; Singler, 2025). From the "always-on" nature of our devices to the allure of just and reliable algorithms, the prevailing story of the digital age imagines perfection and function as the route to a world defined by efficiency and optimization. This narrative leaves little or no space for critical

analysis, political-economic considerations, and in-depth looks at the social and political dynamics at the core of these processes, and with concerning effects on the quality of public discourses pertaining to anything digital. Bialski's book, however, challenges this idealized vision by immersing itself in the daily routines of software developers at a company she pseudonymously calls Middle Tech, a medium-sized firm that operates in Berlin, far from the media glare and hyper-innovation of Silicon Valley companies, their transparent campuses and visionary leaders, while producing crucial mapping, routing, and navigation software. This choice allows Bialski to illuminate from the inside the often invisible labor and pragmatic dynamics that underpin software production that happens behind the scenes or in less visible contexts. Bialski's central argument in the book revolves around the concept of a culture of "good enoughness", an ethos shared by developers to produce software that is functional and adequate for its immediate purpose, rather than striving for an ideal of perfection, efficiency, and brilliance: software that is neither "bad" nor "excellent". In this sense, the "good enough" concept is not a sign of professional negligence or technical ineptitude; rather, it emerges as a rational, adaptive response to the inherent complexities, resource constraints, and dynamic demands of contemporary software development.

Bialski's ethnographic approach is a significant strength, allowing the book to move beyond theoretical discussions to provide in-depth descriptions of developers' interactions, decision-making processes, work routines, lived experiences, rationalizations, and even humor and social gatherings. By foregrounding these human dimensions of



software work, *Middle Tech* can argue that technology, and software in particular, is a constantly co-constructed artifact, shaped by social relations, organizational pressures, and individual interpretations. In doing so, the book offers an overview of the various facets of the “good enough” culture, from the challenges of working with legacy code to the negotiations between developers and management regarding project scope, strategy, and quality. A critical talking point that *Middle Tech* brings to the fore is the often-invisible and undervalued labor of software maintenance. Again, the dominant narratives of the technology industry tend to glorify innovation, the creation of killer apps, and the rapid scaling of new platforms, services, and products in a constant chase for the “next big thing,” “unicorn,” or, now, the most performative large language model (LLM). This emphasis on novelty often obscures the work necessary to keep existing systems operational, secure, and compatible with evolving environments and standards. Here, Bialski’s research covers developers who spend significant portions of their time patching, debugging, and integrating new features into “good enough” software. This element becomes a central character in the book, also highlighting the continuous struggle against obsolescence and bugs. By foregrounding the labor of repair (Denis et al., 2015), Bialski also challenges the illusion of effortless digital functionality, perfection, and “always-on” narratives. In animating this discourse with diverse data emerging from a two-year long ethnography, Bialski’s book reveals the intricate, often messy, and profoundly human processes that occur in software development and illustrates how the abundant bugs and failures of software are not anomalous deviations from a perfect norm or mere technical missteps in need of a fix, rather intrinsic features of its production and functioning (Broussard, 2023, among others). By showing that software is inevitably “broken” or “good enough,” *Middle Tech* shifts the focus from a technical understanding of technological “failure” to a socio-technical one. The book’s strength lies in demonstrating that the “weaknesses” in digital systems are often rooted in organizational decisions, human compromises, and the inherent limitations of human work under pressure, together with systemic issues. This perspective is funda-

mental for moving beyond simplistic notions of “fixing” technology to a more nuanced understanding of the inherent vulnerabilities of digitalization and its infrastructures (Bory and Di Salvo, 2021).

Looking at the non-secondary labour issues and ideas covered in the text, *Middle Tech* deals into the ways developers communicate about bugs, share knowledge, and collectively decide when a piece of software meets the necessary criteria for release, from both sociological and ethnographical perspectives. Here, Bialski shows how the material properties of software, its bugs, and its limitations also actively shape work practices, organizational dynamics, and even the agency of the workers themselves. This is particularly relevant for understanding power dynamics within tech companies, where the technical expertise of developers often clashes with managerial demands for efficiency, leading to a constant negotiation of what “good enough” means. While *Middle Tech* is grounded in ethnography, sociology, and STS studies, its insights also resonate with current media and communication scholarship. Bialski’s notion of “good enough” extends beyond a commentary on software engineering to illuminate an ethos that is pervasive in contemporary digital culture, where imperfection and error actually should be central to both technological artifacts and the narratives that sustain them. In this sense, *Middle Tech* offers media and communication studies a basis for examining sociotechnical work, and how the values of efficiency, usability, and reliability are more culturally performed in dominant narratives rather than technologically engineered in practice and reality. By highlighting the messiness and human nature of software development, *Middle Tech* provides an empirical grounding that challenges inflated, but almost hegemonic, claims of technological (super)powers. This critical stance also aligns with a broader academic effort to deconstruct the hype surrounding technology and to foster a more realistic understanding of its capabilities and limitations. Thus, *Middle Tech* emerges as a crucial read for fostering informed public debates about technology, moving beyond simplistic narratives of disruption and towards an understanding of the complex, often contradictory, realities of technology production.

References

- Ananny, M. (2023). Making mistakes: constructing algorithmic errors to understand sociotechnical power. *Osiris*, 38(1), 223–241. <https://doi.org/10.1086/725146>
- Barassi, V. (2024). Toward a theory of AI errors: making sense of hallucinations, catastrophic failures, and the fallacy of generative AI. *Harvard Data Science Review*, (Special Issue 5). <https://doi.org/10.1162/99608f92.ad8ebbd4>
- Bory, P., & Di Salvo, P. (2021). Weak Systems. Unveiling the vulnerabilities of digitization. *Tecnoscienza – Italian Journal of Science & Technology Studies*, 12(2), 79–87. <https://doi.org/10.6092/issn.2038-3460/17514>
- Broussard, M. (2023). *More than a glitch: Confronting race, gender, and ability bias in tech*. The MIT Press.
- Carabantes, M. (2020). Black-box artificial intelligence: an epistemological and critical analysis. *AI & society*, 35(2), 309–317.
- Denis, J., Mongili, A., & Pontille, D. (2015). Maintenance & repair in science and technology studies. *Tecnoscienza – Italian Journal of Science & Technology Studies*, 6(2), 5–15.
- Epstein, G. (2024). Silicon Valley's Obsession With AI Looks a Lot Like Religion. The MIT Press Reader. <https://thereader.mitpress.mit.edu/silicon-valleys-obsession-with-ai-looks-a-lot-like-religion/>.
- Lewis, S. C., Zamith, R., & Bunquin, J. B. A. (2025). Technological Hype and AI in Journalism: Five Functions and Why They Matter. *Digital Journalism*, 1–12.
- Natale, S., Bory, P., & Balbi, G. (2019). The rise of corporational determinism: digital media corporations and narratives of media change. *Critical Studies in Media Communication*, 36(4), 323–338.
- Olesen, T. (2025). Suspicious Organizations: Democracy and the Power of Big Tech. *Politics & Society*, 00323292251367601.
- Singler, B. (2025). *Religion and Artificial Intelligence: An Introduction*. Routledge.
- Winkel, M. (2025). Controlling the uncontrollable: the public discourse on artificial intelligence between the positions of social and technological determinism. *Ai & Society*, 40(3), 1947–1959.